

Serial No. 09/990,964

Remarks

Claims 1, 4-13, 15 and 16 are pending in the application.

Claims 1, 7, 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,104,515 to Cao (hereinafter Cao) in view of Ramaswami, Optical Networks: A Practical Perspective (hereinafter Ramaswami).

Claims 10, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and further in view of United States Patent No. 6,005,702 to Suzuki et al.(hereinafter Suzuki).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 6,097,525 to Ono et al. (hereinafter Ono).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of US Published Application No. 2003/0002121 by Miyamoto et al. (hereinafter Miyamoto).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 6,724,829 by Tzukerman et al. (hereinafter Tzukerman).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 5,745,613 Fukuchi.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 4,847,477 to Smith (hereinafter "Smith").

Each of the various rejections and objections are overcome by various amendments and arguments that are presented.

Any amendments to any claim for reasons other than as expressly recited herein as being for the purpose of distinguishing such claim from known prior art are not being made with an intent to change in any way the literal scope of such claims or the range of equivalents for such claims. They are being made simply to present language that is better in conformance with the form requirements of Title 35 of the United States Code or is simply clearer and easier to understand than the originally presented language. Any

Serial No. 09/990,964

amendments to any claim expressly made in order to distinguish such claim from known prior art are being made only with an intent to change the literal scope of such claim in the most minimal way, i.e., to just avoid the prior art in a way that leaves the claim novel and not obvious in view of the cited prior art, and no equivalent of any subject matter remaining in the claim is intended to be surrendered.

Also, since a dependent claim inherently includes the recitations of the claim or chain of claims from which it depends, it is submitted that the scope and content of any dependent claims that have been herein rewritten in independent form is exactly the same as the scope and content of those claims prior to having been rewritten in independent form. That is, although by convention such rewritten claims are labeled herein as having been "amended," it is submitted that only the format, and not the content, of these claims has been changed. This is true whether a dependent claim has been rewritten to expressly include the limitations of those claims on which it formerly depended or whether an independent claim has been rewriting to include the limitations of claims that previously depended from it. Thus, by such rewriting no equivalent of any subject matter of the original dependent claim is intended to be surrendered. If the Examiner is of a different view, he is respectfully requested to so indicate.

Rejection Under 35 U.S.C. 103(a)

Claims 1, 7, 8 and 16

Claims 1, 7, 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,104,515 to Cao (hereinafter Cao) in view of Ramaswami, Optical Networks: A Practical Perspective (hereinafter Ramaswami). The rejection is traversed.

Applicants respectfully avoid these grounds of rejection for the following reasons. Applicants' independent claim 1 recites, in part: "optical phase modulated signal in which each pulse in the sequence of RZ pulses has associated with it an E-field value representing a phase wherein for each bit interval, the E-field value starts and ends at zero, and the E-field value is positive or negative at about the mid-point of the bit interval". Neither Cao nor Ramaswami teaches or suggests at least the above features.

Serial No. 09/990,964

Cao teaches an apparatus for polarization mode dispersion (PMD) compensation of a data signal using a temporal imaging technique. However, as the Office Action indicated, Cao does not teach a return-to-zero (RZ) signal format.

The Office Action cited Ramaswami for teaching the RZ format, and in particular, Fig. 4.1 was cited for teaching that "the E-field value starts and ends at zero according to the inputted binary data; the E-field value is positive at the mid-point". However, Applicants disagree that the combined teachings of Ramaswami and Cao would render Applicants' invention obvious.

Specifically, Fig. 4.1 of Ramaswami only shows various signal formats - i.e., NRZ, RZ and short pulse formats, that can be used with on-off keying (OOK) modulation (see first paragraph in Section 4.1.1 relating to Fig. 4.1). On-off keying, which is also known as amplitude shift keying (ASK) modulation, modulates the amplitude, as opposed to the phase of a signal. As such, none of the signal formats in Ramaswami's Fig. 4.1 shows an "optical phase modulated signal in which each pulse in the sequence of RZ pulses has associated with it an E-field value representing a phase wherein for each bit interval, the E-field value starts and ends at zero, and the E-field value is positive or negative at about the mid-point of the bit interval", as recited in Applicants' claims1.

Thus, Ramaswami fails to bridge the substantial gap between Cao and Applicants' invention as claimed in at least independent claim 1.

Since independent claim 16 includes relevant limitations similar to those of claim 1, it is respectfully submitted that this claim is also patentable for at least the reasons discussed above with respect to claim 1.

Finally, since claims 7 and 8 depend from claim 1 and recite additional limitations therefrom, these claims are also patentable for at least the reasons discussed above with respect to claim 1.

Therefore, Applicants' claims 1, 7, 8 and 16 are patentable under 35 U.S.C. 103(a) over Cao in view of Ramaswami. As such, the Examiner's rejection should be withdrawn.

Serial No. 09/990,964

Claims 10, 11 and 15

Claims 10, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and further in view of United States Patent No. 6,005,702 to Suzuki et al. (hereinafter Suzuki).

Each ground of rejection applies only to dependent claims, and each is predicated on the validity of the rejection under 35 U.S.C. 103 given Cao in view of Ramaswami. Since the rejection under 35 U.S.C. 103 given Cao in view of Ramaswami has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that Suzuki supplies that which is missing from Cao in view of Ramaswami to render the independent claims obvious, these grounds of rejection cannot be maintained.

Therefore, applicants' claims 10, 11 and 15 are patentable under 35 U.S.C. 103(a) over Cao in view of Ramaswami and in further view of Suzuki. As such, the Examiner's rejection should be withdrawn.

Claims 4-6, 9, and 12-13

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 6,097,525 to Ono et al. (hereinafter Ono). The rejection is traversed.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of US Published Application No. 2003/0002121 by Miyamoto et al. (hereinafter Miyamoto). The rejection is traversed.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 6,724,829 by Tzukerman et al. (hereinafter Tzukerman). The rejection is traversed.

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Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Ramaswami and in further view of United States Patent No. 4,847,477 to Smith (hereinafter "Smith"). The rejection is traversed.

Serial No. 09/990,964

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Therefore, Applicants' claims 4-6, 9 and 12-13 are patentable under 35 U.S.C. 103(a) over Cao in view of Ramaswami, Suzuki, Ono, Miyamoto, Tzukerman, Fukuchi and Smith. As such, the Examiner's rejection should be withdrawn.

Secondary References

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicants' disclosure than the primary references cited in the Office Action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

Serial No. 09/990,964

Conclusion

It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, the Examiner is invited to call Eamon Wall at (732)530-9404 so that arrangements may be made to discuss and resolve any such issues.

Respectfully,

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